

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars.

1. In the claims

As shown in the foregoing AMENDMENT TO THE CLAIMS, the claims have been amended to more clearly point out the subject matter for which protection is sought.

Claim 1 is amended to recite that “a single controller is connected to the driving motors via corresponding inverters” and that the controller is connected to stroke sensors, a steering angle sensor and a longitudinal deceleration sensor, and that all of the wheels are selected to serve as regenerative brake wheels upon braking. It is respectfully submitted that no new matter is added since the amendment merely merges the subject matter of original claims 4 and 1, and support for the amendment is clearly found in Fig. 1 of the pending application and at least on page 4, line 16 through page 5, line 5 of the accompanying description in the specification.

Claim 2 remains canceled.

Claims 3 and 8 are left unchanged.

Claim 4 is canceled, and the subject matter thereof incorporated into amended claim 1.

Claim 5 is amended to recite that “a single controller is connected to the driving motors via corresponding inverters” and that the controller is connected to stroke sensors, a steering angle sensor and a longitudinal deceleration sensor. It is respectfully submitted that no new matter is added since support for the amendments is clearly found in Fig. 1 of the pending application and at least on page 4, line 16 through page 5, line 5 of the accompanying description in the specification.

Claim 6 is amended to recite that “a single controller is connected to the driving motors via corresponding inverters” and that the controller is connected to

stroke sensors, a steering angle sensor and a longitudinal deceleration sensor. It is respectfully submitted that no new matter is added since support for the amendments is clearly found in Fig. 1 of the pending application and at least on page 4, line 16 through page 5, line 5 of the accompanying description in the specification.

Entry of the AMENDMENT TO THE CLAIMS is respectfully requested in the next Office communication.

2. Rejection of claims 1, 3-6, and 8 under 35 U.S.C. § 102(b) as being anticipated by U.S. patent no. 5,465,806 (*Higasa et al.*)

Reconsideration of this rejection is respectfully requested, in view of the amendments to claims 1, 5, and 6, on the basis that the *Higasa* patent fails to disclose each and every limitation of amended claims 1, 5, and 6. The remaining claims depend from either claim 1 or 6, and are therefore patentable as containing all of the limitations of claims 1 or 6, as well as for their respective recited features. The cancellation of claim 4 renders this rejection moot with respect to claim 4.

The *Higasa* patent fails to disclose a driving device of an electric car having a single controller connected to the driving motors of each wheel via corresponding inverters, and the controller being connected to a stroke sensor for each wheel, as required by amended claims 1, 5, and 6. The *Higasa* patent further fails to disclose that the rear wheels or a group of the rear wheels are selected to serve as the drive wheels on a level road and an upslope, and the front wheels or a group of the front wheels are selected to serve as the drive wheels on a downslope, as required by amended claim 1. With regards to amended claim 6, the *Higasa* patent fails to disclose using the strokes of the suspensions to determine information for selecting the drive wheels.

The *Higasa* patent discloses a 4-wheel drive electric vehicle (col. 3, lines 21-22). A motor 21a, 21b, 22a, and 22b is provided in association with each wheel for driving the respective wheel and for providing regenerative braking (col. 3, lines 55-60; col. 5, lines 16-24). Four motor controllers 32a, 32b, 33a, and 33b are provided in

independent signaling communication with the respective motors (Fig. 3; col. 4, lines 2-4).

Thus, in contrast to amended claims 1, 5, and 6, the *Higasa* patent discloses a motor controller 32a, 32b, 33a, and 33b for each motor 21a, 21b, 22a, and 22b in order to independently control each motor. This configuration is contrary to embodiments of amended claims 1, 5, and 6, which require a single controller for controlling all of the motors.

Further, the *Higasa* patent fails to disclose a corresponding inverter connected between the single controller and each driving motor, as required by amended claims 1, 5, and 6. While the *Higasa* patent does disclose a chopper 83 between the drive motor 82 and the battery 81, it fails to disclose or suggest an inverter placed in connection between the single controller and each of the driving motors.

Further still, the *Higasa* patent simply fails to disclose stroke sensors associated with each wheel, as required by amended claims 1, 5, and 6.

With respect to amended claim 1, while the *Higasa* patent does disclose a selective full time 4-wheel drive system, the disclosure is limited to selecting drive wheels based upon a braking phenomenon (col. 6, line 49 through col. 7, line 7). There is simply no disclosure or suggestion in the *Higasa* patent to select the rear wheels as drive wheels on level road or an upslope and to select the front wheels as drive wheels on a downslope, as required by amended claim 1.

The rejection appears to treat these limitations as functional limitations, and suggests that if the prior art has the same structure, the functional limitations add no patentable weight. However, the *Higasa* patent does not disclose each and every structural limitation of amended claims 1, 5, and 6, as discussed above. Further, functional limitation must be given patentable weight, even if the claim does not invoke 35 U.S.C. § 112, sixth paragraph by utilizing the “means plus function” language (MPEP § 2173.05(g)). Thus, the prior art device must be able to perform every recited function in order to anticipate the pending claims.

Accordingly, in order to anticipate amended claim 1, the *Higasa* patent must be able to perform the function of selecting the rear or front wheels as the drive wheels depending upon the grade of the road. It is respectfully submitted that the electric vehicle of the *Higasa* patent is incapable of performing this function.

Amended claim 1 requires a controller connected to stroke sensors associated with each wheel. The stroke sensors are monitored, and the grade of the road may be determined from information gathered from the stroke sensors. Once the grade of the road is determined, the front or rear wheels are selected as the drive wheels.

The *Higasa* patent fails to disclose stroke sensors or any other structure that would allow the electric vehicle of the *Higasa* patent determine the grade of a road. Thus, the *Higasa* patent also fails to disclose performing the function of selecting the front or rear wheels as the drive wheels based upon the grade of the road. Accordingly, the *Higasa* patent fails to disclose or suggest every feature of amended claim 1.

Similarly to amended claim 1, amended claim 6 requires a controller connected to stroke sensors associated with each wheel and further selecting the drive wheels based upon the information calculated or reasoned from the information on the suspension strokes, as determined by the stroke sensors.

As previously discussed, in order to anticipate claim 6, the *Higasa* patent must be able to perform the functions recited in claim 6. Also as previously discussed, the *Higasa* patent cannot perform the recited function of claim 6, since the *Higasa* patent does not include stroke sensors associated with each wheel and connected to the controller.

Accordingly, for each of the reasons discussed above, the *Higasa* patent fails to disclose or suggest each and every limitation of amended claims 1, 5, and 6, and withdrawal of this rejection is respectfully requested.

3. Rejection of claims 6 and 8 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 5,465,806 (*Higasa et al.*) in view of U.S. patent no. 6,688,612 (*Burdock et al.*)

Reconsideration of this rejection is respectfully requested on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to claim 6. Claim 8 depends from claim 6, and is therefore patentable as containing all of the limitations of claim 6, as well as for its respective recited features.

As discussed above in section 2, the *Higasa* patent fails to disclose every limitation of amended claim 6.

The *Burdock* patent fails to provide for the deficiencies of the *Higasa* patent. In particular, while the *Burdock* patent discloses height sensors 42, 43, 44, and 45, these height sensors are not stroke sensors, as required by amended claim 6. Specifically, height sensors 42, 43, 44, and 45 merely measure the relative position of a part of the suspension system, such as the ends of the axles 18, 22, and the body 22 (col. 5, lines 16-23). Thus, the height sensors 42, 43, 44, and 45 of the *Burdock* patent are not stroke sensors, as required by amended claim 6.

Further, the *Burdock* patent fails to disclose a single controlled connected to each driving motor via a corresponding inverter, as required by amended claim 6.

Therefore, since neither the *Higasa* nor the *Burdock* patents disclose a single controller connected to each drive motor via a corresponding inverter, and further connected to a stroke sensor associated with each wheel, there is no reasonable expectation that the combination of the *Higasa* and the *Burdock* patents would successfully disclose every feature of amended claim 6.

Further, there is no suggestion or teaching that would have motivated a skilled artisan to combine the features of the *Higasa* and the *Burdock* patents in order to perform the functions recited in amended 6, absent the applicant's own disclosure.

The *Higasa* patent is related to a drive system for an electric car, as discussed above in section 2. The drive system is utilized to remove or reduce the braking

phenomenon, or to adjust the directional orientation of the wheels (col. 6, line 49 through col. 7, line 7; col. 11, lines 23-44).

The *Burdock* patent is related to an active or semi-active suspension system that adapts the suspension system to the operating conditions (col. 1, lines 5-7; col. 8, lines 43-49).

The teachings of these two patents are drawn to very distinct issues, and while both issues are related to vehicle handling and control, there is no suggestion or disclosure, absent the applicant's own disclosure, that would have motivated a skilled artisan to combine the teachings of the two patents in order to provide the driving device of amended claim 6 that is capable of performing the function of amended claim 6. At most, a skilled artisan would have combined the teachings of the *Higasa* and the *Burdock* patents to provide independent control systems for the drive and suspension systems respectively. However, such an arrangement would still fail to perform the function required by amended claim 6, that the strokes of the suspensions are used to determine traveling information in order to select the drive wheels.

Thus, because none of the cited references disclose or suggest every limitation of claims 6 and 8, a skilled artisan would not be motivated to combine the cited references, and even if the cited references were combined there is no reasonable expectation that the combination would successfully disclose the claimed embodiments, a *prima facie* case of obviousness cannot be maintained, and withdrawal of this rejection is respectfully requested.

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4. Conclusion

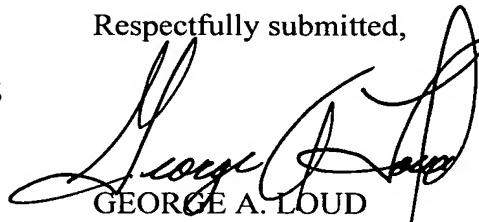
As a result of the amendment to the claims, and further in view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that every pending claim in the present application be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the applicant's attorney, the examiner is invited to contact the undersigned at the numbers shown below.

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Respectfully submitted,



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